

REMARKS/ARGUMENTS

This Amendment is in the newly approved Revised Format such that each section of this Amendment begins on a separate sheet.

Claims 1-11 remain pending in the present application. Claims 1-8 are currently under examination and Claims 9-11 have been withdrawn from consideration.

Applicants' and their attorney wish to thank the Examiner for his careful consideration of previously advanced arguments which have resulted in the withdrawal of the Examiner's rejections of Claims 1-8 based upon Heibel et al. (WO 00/14123), GB 607735, Tanaka et al. (JP 02064144), or Elgood et al. ("The Emulsion Polymerization of Vinyl Acetate by Redox Initiator", Br. Polym. J. 1973, 5, 249-258). Although the Examiner did not specifically state the withdrawal of the claim rejections based upon Heider et al. (U.S. 5,087,676), since the rejections maintained in the final Office Action do not mention Heider et al. (U.S. 5,087,676), Applicants' and their attorney have assumed that this rejection and reference has also been withdrawn. If this is not correct, Applicants' and their attorney respectfully request clarification of this issue in the next communication from the Examiner.

Claim Amendments

With reference to the foregoing amendments, it is noted that the features of Claim 2 relating to the molecular weight range of the polymer product have, in part, been incorporated into independent process Claim 1. Similarly, the features of Claim 6 relating to the molecular weight range of the polymer product have, in part, been incorporated into independent product-by-process Claim 5. In view of the aforesaid amendments to Claims 1 and 5, Claim 2 has been cancelled in its entirety and Claim 6 has been amended to eliminate the features relating to the molecular weight range of the polymer product. It is believed that the foregoing amendments are supported by the disclosure and examples as originally filed and that no new matter has been introduced into the present application thereby.

Claim Rejections Under 35 U.S.C. § 102(b)

On pages 2-3 of the Office Action, the Examiner has maintained the rejection of Claims 1-8, under 35 U.S.C. § 102(b) as being anticipated by Bauer et al. (DE 2015296). Applicant respectfully traverses this rejection for the reasons which follow.

As recited in amended independent Claim 1, one aspect of the present invention relates generally to a process for preparing an aqueous dispersion of plastics additive polymer particles. More particularly, the process of amended independent Claim 1 includes the step of emulsion polymerizing one or more ethylenically unsaturated monomers in an aqueous medium in the presence of a free radical redox initiator system which comprises an oxidizing agent, a reducing agent, and from 0.01 to 5.00 ppm, based on monomer weight, of a mixture of iron and copper metal ion species and wherein the wherein the ethylenically unsaturated monomers are polymerized to achieve a polymer molecular weight in the range of from 4 to 15 million.

Another aspect of the present invention, as recited in amended independent Claim 5, relates generally to a polymeric composition for use in modifying the properties of thermoplastic resins. More particularly, the polymeric composition of amended independent Claim 5 comprises polymer particles prepared by emulsion polymerizing one or more ethylenically unsaturated monomers in an aqueous medium in the presence of a free radical redox initiator system which comprises an oxidizing agent, a reducing agent, and from 0.01 to 5.00 ppm, based on monomer weight, of a mixture of iron and copper metal ion species and wherein the wherein the ethylenically unsaturated monomers are polymerized to achieve a polymer molecular weight in the range of from 4 to 15 million.

Thus, as recited in both amended independent Claims 1 and 5, the present invention involves plastics additive polymer particles, as well as a process of making them, which are intended to be added to thermoplastic resins for the purpose of modifying the characteristics of the resins. Moreover, the present invention includes the required feature that the ethylenically unsaturated monomers are polymerized to achieve a polymer molecular weight in the range of from 4 to 15 million

In view of the Examiner's reiteration of the rejection of Claims 1-8 based upon Bauer et al., Applicants respectfully note that Bauer et al. does not relate to the same or

analogous field as the present invention recited in Claims 1 and 5. It is submitted that Bauer et al. relates to a different class of reactions than the present invention. More particularly, Bauer et al. relates to a process for preparing PVC resins, as well as resins including PVC and other ethylenically unsaturated monomers, which are typically of molecular weights much lower than the polymers of the present invention. As would be recognized by persons of ordinary skill in the art, the process disclosed by Bauer et al. would have to be operated at temperatures significantly lower than the process of the present invention even to produce polymers of molecular weight in the 100,000's. The present invention, on the other hand, relates to plastics additive polymer particles for modifying the characteristics of thermoplastic resins (such as PVC) and having polymer molecular weight in a range from 4 to 15 million. Bauer et al. does not concern preparation of polymer additives to be combined with thermoplastic resins for the purpose of modifying the resin characteristics, as in the present invention. In addition, it is noted that an express objective of Bauer et al. is to control, i.e., slow down the reaction process (rate of polymerization), whereas the present invention seeks to speed up the initiation of the reaction as well as to decrease the overall reaction time. This speeding up of the polymerization process is believed to be the reason why such high molecular weights (i.e., from 4 to 15 million) are achieved for the polymer particles of the present invention.

In view of the foregoing explanation, it is respectfully submitted that persons of ordinary skill in the art would not have recognized Bauer et al's disclosure of the possibility of using both iron and copper species in the redox initiator system in the polymerization production of PVC and PVC-based resin polymers as a teaching to use such a combination of metal species in a redox initiator system for polymerization production of plastics additive polymer particles (for modifying the characteristics of such resins) because the process of Bauer et al is known to be suitable for producing polymer material having molecular weights of, at most, in the 100,000's, whereas the present invention produces polymer particles having molecular weight from 4 to 15 million. Thus, it is respectfully submitted that the disclosure of Bauer et al does not anticipate the present invention s claimed in amended independent Claims 1 and 5.

Based upon the foregoing discussion and explanation, it is believed that the disclosure of Bauer et al. fails to anticipate the present invention, as recited in amended independent Claims 1 and 5. Thus, it is believed that Claims 1 and 5 are presently in condition for allowance. In addition, since Claims 3-4 and 6-8 depend, directly or indirectly, from either Claim 1 or Claim 5, Claims 3-4 and 6-8 are also believed to be in condition for allowance at this time.

Conclusion

Applicants and their attorney hereby respectfully request re-examination and allowance of Claims 1 and 3-8. If, however, there remain any open issues which the Examiner believes can be resolved by a telephone call, the Examiner is cordially invited to contact the undersigned attorney.

No fees are believed to be due in connection with the submission of this Amendment. However, if any such fees, including extension and petition fees, are due in connection with this Amendment, the Commissioner is hereby authorized to charge them, as well as to credit any overpayments, to **Deposit Account No. 18-1850**.

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ROHM AND HAAS COMPANY
100 Independence Mall West
Philadelphia, PA 19106-2399

Respectfully submitted,



Marcella M. Bodner
Attorney for Applicants
Registration No. 46,561
Telephone: (215) 592-3025